

Claim Rejections - 35 USC Sec. 102

Claims 1, 2, 6, 8, 10-12, 18 and 19 have been rejected under 35 U.S.C. 102 on Baumann '280. Base claims 1 (on which Claims 2, 6, 8,, and 10 depend) and 12 (on which Claims 18 and 19 depend) have been rewritten as Claims 21 and 30, respectively, and the dependent Claims have been renumbered and revised to depend from the new base claims.

In view of the present amendments, these Sec. 102 rejections should be withdrawn.

Claim Rejections - 35 USC Sec. 103

Claims 3-5, 7, 13-16 were rejected under Sec. 103 over Baumann, and Claims 9 and 17 were rejected under Sec. 103 over Baumann in view of Heusinkveld.

No action was taken on Claim 20, which is presented herewith in the Listing of Claims, amended to depend from new Claim 30.

The attention of the examiner is called to applicant's co-pending application SN 10/853,065 filed May 24, 2004, for a BINDING MACHINE AND METHOD, which was published as Publication No. US2004/0240968 on Dec. 2, 2004. Reference is had particularly to Fig. 3 which shows a spine binder S closed by means of a hammer 27 on a closing finger 28 which bears down upon the hinge of an open spine binder to close the ring elements. Such a device permits zipper-like closing of the spine binder by means of a closing tool 22. Applicants' present invention is intended to be used with such a binding machine. Applicant's spine binder has multiple binding elements closely arranged side by side for secure binding of many sheets of punched paper having holes barely spaced apart to receive the binding elements. With such closely spaced binding elements and holes, extreme care must be taken to prevent damage to the work. Binders using closely space rings are more attractive, permit pages to turn with greater ease, resist tearing when properly assembled and are more permanent than three ring looseleaf binders. Applicant's device is not intended for use in a loose leaf three ring binder as is the case of the Heusinkveld binder.

The Heusinkveld prior art binder can not be used with a binding machine like the one referred to above. With Baumann's binder, the hinge as shown and shaped does not permit easy closing or opening of the rings. None of the prior art spine binder references can be used with a binding machine like the one referred to above without substantial revision. Furthermore, the closing ends

of each ring shown in the references are not suitably shaped or arranged to guarantee closure every time or to remain closed, particularly against twisting forces or torque against the binder.

In Heusinkveld's looseleaf ring binder, there is no way to cause the ring elements to close, other than by independently manipulating the members together, as opposed to applicant's structure, which can be closed in a zipper like fashion. Rather than using a pronged fit for closing the ring element, as in the case of Baumann or Heusinkveld, applicant's structure utilizes an interference fit of the enclosed male ball and interfitting female socket, which allow snap closure of the ring to affirmatively close the rings, even in the face of substantial torque, which is also aided by the claimed relative width to thickness of the ring elements, as compared to Baumann. Applicant's spine binder can be fully opened to any angle, because of its living hinge, but Heusinkveld's base restricts opening.

The Heusinkveld structure has no hinge on the spine, so that the ring has to be deformed to close or open, and that makes consistent opening and closing more difficult. Also, accidental squeezing of the closed rings in the prior art devices could cause them to spring open, and that is not desirable. Additionally, Heusinkveld's design could not be used in association with an automatic closing tool or the binding machine referred to above, as is the case of applicant's binder.

In new parent Claim 21, applicant has recited that the web between the hinge braces and that the "ring elements are adapted to be pressed together into removably secured engagement when pressure is applied to the web of said spine". Baumann has no equivalent of said web and hinge braces, as his hinge is comprised of rectangular hinge members 3 and 4. Pressure on Baumann's connecting member will not cause the ring elements to close. Applicant has also recited in this Claim 21 that the "the male fastener is engaged within and has a wall (40) surrounding the female

fastener." No corresponding structure can be found in Baumann or Heusinkveld.

In new parent Claim 30, not only is the web between the hinge braces recited, but also the fact that the series of hinge members are space apart on the spine "a distance less than the circumference of said ring", that the slots on the rings are spaced apart from the ring ends, and that structure finds no response or suggestion in Heusinkveld or Baumann.

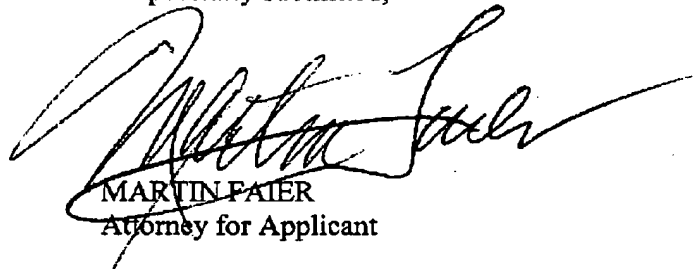
All the claims, independent and dependent, also now recite the interior slot within the ring element. All of the dependent claims in the application are dependent on Claim 21 or 30.

The claims as now presented are believed patentable in view of the foregoing discussion and early allowance is solicited.

Extension of Time Request

Kindly extend the time for filing this response into the second month, and charge the extension of time fee of \$450 to deposit account No. 06-0040 of the undersigned attorney.

Respectfully submitted,

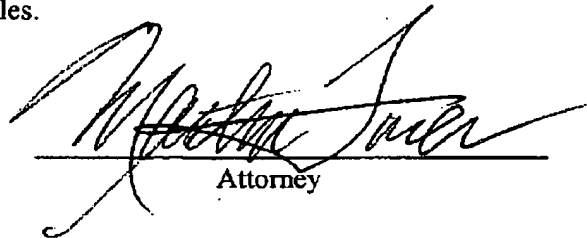


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CERTIFICATE OF SUBMISSION BY FAX

I certify that this Amendment B and the accompanying Listing of Claims is being submitted via fax to Fax No. 703/872-9306, the number provided by the examiner in the Action referred to above, on June 8, 2005, in accordance with the rules.



Attorney

LISTING OF CLAIMS**1-19 Canceled**

20. (Currently Amended) The spine binder according to Claim [[12]] 30, wherein the male and female ring elements may be drawn apart to open the binder to permit reloading of a sheet and closed again by bringing said elements together.

21. (New) A spine binder comprising:

a spine consisting of a longitudinally extending strip,

a web on said spine dividing said strip into longitudinal sections,

a series of spaced apart hinge members on said spine, each said member being transverse to said spine and defining a hinge consisting of longitudinally extending hinge braces joined together centrally of their width along one common longitudinal edge of said spine adapted to define a loop when closed, each said member having:

a first hinge brace and a second hinge brace connected by said spine, such that when the hinge is open said hinge braces are separated, and the hinge is closed when the hinge braces are brought together; and

complementary male and female ring elements,

wherein each ring element have a proximal end attached to a hinge brace and

a distal end comprising

a male fastener for a male ring element and a female fastener

complementary to the male fastener for a female ring element,

each ring element having a male fastener being attached to one hinge

brace and a complementary ring element having a female ring element

attached to the opposing hinge brace, such that the distal end of the ring element are separated when the hinge is open, and are engaged to form a loop in cooperation with the hinge when the hinge is closed, and

wherein the distal ends of said ring element nest so that the female fastener surrounds the male fastener and the male fastener is engaged within and has a wall surrounding the female fastener; and said ring elements are adapted to be pressed together into removably secured engagement when pressure is applied to the web of said spine.

22. (New) The spine binder according to Claim 1, wherein each ring element is substantially a semicircle.

23. (New) The spine binder according to Claim 1, wherein the male fastener comprises a neck that attaches a head that is thicker than the neck to the distal end, and the female fastener comprises a fastener recess having an outer channel and an inner head cavity.

24. (New) The spine binder according to Claim 6, wherein the male fastener has a side wall surrounding it which receives the female fastener.

25. (New) The spine binder according to Claim 1, wherein the ring elements are wider than thick.

26. (New) The spine binder according to Claim 1 that is an unitary injection molded polymer.

27. (New) The spine binder according to Claim 1 wherein each ring element further has an interior slot extending substantially more than half the length of said ring elements.

28. (New) The spine binder according to Claim 1, wherein the ring elements are all alike and the ring elements with the male fastener are on the first hinge brace, and the ring elements with the female fastener are all on the second hinge brace.

29. (New) The spine binder according to Claim 1, wherein the space on said spine between hinge members is less than the circumference of said ring.

30. (New). A unitary injection molded polymeric spine binder comprising:

a spine consisting of a longitudinally extending connecting strip,

a series of spaced apart hinge members on said spine, each said member defining a hinge consisting of longitudinally extending portions arranged transverse to said spine joined together centrally of their width by a web along one common longitudinal edge of said spine, each said member having:

a ring arranged substantially transverse to said spine and adapted to define an elongated dorsal hinge comprising a first hinge brace and a second hinge brace connected by said spine, so that the hinge is open when the hinge braces are separated, and the hinge is closed when the hinge braces are brought together; and

a plurality of complementary male and female ring elements, wherein each ring element is a semicircle and comprises a proximal end attached to a hinge brace and a distal end comprising a male fastener for a male ring element and a female fastener that is complementary to the male fastener for a female ring element, each ring element being attached to one hinge brace and a complementary ring element being attached to the opposing hinge brace, so that the distal ends of the complementary ring elements are separated when the hinge is open, and are engaged to form a loop in cooperation with the hinge when the hinge is closed,

each of said rings having a slot spaced apart from its ends, and
wherein said hinge members of said series are spaced apart along said spine a distance less than the circumference of said ring and are adapted to be pressed together into removably secured engagement when pressure is applied to said spine.

31. (New) The spine binder according to Claim 30, wherein the ring elements are wider than thick.

32. (New) The spine binder according to Claim 30 wherein said slot on each ring element further comprises a closed interior slot within the walls of each said ring element.

33. (New) The spine binder recited in Claims 32 wherein said slot extends substantially more than half the length of said ring element.

34. (New) The spine binder according to Claim 30, wherein said female fastener has an open side for receiving the male fastener therein.

35. (New) The spine binder according to Claim 30, wherein the male and female ring elements are interspersed on both hinge braces.

36. (New) The spine binder recited in Claim 30, wherein all of said hinge member of said series may be closed together to form a loop upon manipulation of said spine.

37. (New) The spine binder received in Claim 35, wherein such pressure is applied to said spine from the direction of said fasteners.